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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,385	12/15/2000	Jessel Savory		7677

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EXAMINER

LAM, DANIEL K

ART UNIT	PAPER NUMBER
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2667

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DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,385

Applicant(s)

SAVORY, JESSEL

Examiner

Daniel K Lam

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150** words. It is important that the abstract not exceed **150** words in length since the space provided for the abstract on the computer tape used by the printer is limited.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:
 - Switch bus 10 is missing in fig. 1.
 - Switch bus 10, host computer 22b, blocks 24, 26, and 30, and interface card 28a, are missing in fig. 2.
 - Blocks 10b and 32a, switches 10a and 10b, host computers 36a and 36b, and file servers 34a and 34b, are missing in fig. 3.
3. Fig. 5 is objected to because descriptive names are missing.
4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 16, line 2, "programmable" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claim 1, 5 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "essentially" in **claim 1**, line 15, and in **claim 5**, line 4, is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

Claim 19 recites the limitation of "said billing system" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,026,088 issued to Rostoker et al (hereinafter Rostoker) in view of U. S. Pat. No. 5,898,688 issued to Norton et al (hereinafter Norton).

Regarding **claim 1**, Rostoker discloses a network apparatus using multiple backbone buses, comprising:

- A backbone bus 559 (a computer including a main bus), a second backbone bus 576 (at least one backplane), and a backbone CPU controller 560 arbitrates the bus access (microprocessor carried on said main bus for processing communication functions and controlling transferring data). See fig. 40, and col. 22, line 62 to col. 23, line 3.
- An ASIC switch 563 (a digital signal processor) connects to DRAM 577 and networking interface 573 forming an expansion card. Many expansion cards can be connected to backbone buses 559 and 576 (a plurality of expansion cards coupled to said main bus). Networking expansion cards may support different protocols, such as, Ethernet, T1, E1, T3, and E3 (expansion cards are selectable T1/E1 telephony cards). See fig. 40, col. 23, lines 4-17, and col. 26, lines 18-20.
- In an expanded configuration, several backbone buses 559, 576, 579, and 580 connect the expansion cards so that throughput performance can be increased. Furthermore, the backbone buses can utilize any protocol, such as ATM protocol (at least one backplane is chosen from the group consisting essentially of a computer telephony bus, a cell or ATM or CT bus, and a computer telephony and cell combined bus). See fig. 41, col. 18, lines 32-33, and col. 24, lines 41-45.

However, he does not explicitly disclose the main bus being peripheral components interconnect bus. But Norton discloses an ATM switch with integrated system bus having a peripheral components interconnect bus as the main bus. See fig. 1, switch bus 14, and col. 3, lines 11-13.

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to design a telecommunication switch comprising a PCI main bus, a backplane with specialized buses, a microprocessor for bus arbitration, and network interface expansion cards, for couple of key motivations. Firstly, since the PCI is a standardized bus, it is more economical to find interface chips that support the protocol. Secondly, since the PCI supports both single data transfer mode and burst data transfer mode of any length, one can transfer switch control information using the single data transfer mode and ATM cells using the burst data transfer mode as taught by Norton. See col. 3, lines 13-17.

Regarding **claims 2-4**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses interfacing to the T1/E1 networks on two occasions (see col. 12, line 11, and col. 26, lines 18-20). Furthermore, it is well known in telecommunication that an E1 circuit contains 30 voice channels (each of said selectable T1/E1 telephony cards provides a maximum of 30 voice channels; claim 2) and a T1 circuit contains 24 voice channels (each of said selectable T1/E1 telephony cards provides at least a minimum of 24 voice channels; claim 3). Additionally, it is also well known that a standardized T1 circuit has a data rate of 1.544 Mbps, and a standardized E1 circuit has a data rate of 2.048Mbps (each of said

selectable T1/E1 telephony cards producing a single digital voice/data stream in the range of 1.544 to 2.048 Mbps, carried over standard pairs of copper wire; claim 4).

Regarding **claim 5**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses storing data packets into the DRAM 561 as shown in fig. 36 (said computer further including memory, wherein said memory is chosen from the group consisting essentially of FLASH ROM and DRAM). See col. 21, lines 49-52. Furthermore, Rostoker also discloses using flash electrically programmable ROM in a MPEG compression and decompression circuit. See col. 29, lines 49-51.

Regarding **claim 6**, in addition to disclose the limitations in claim 5 discussed earlier, Rostoker further discloses the CPU 560 may be a RISC processor (said microprocessor includes a reduced instruction set computer). See col. 23, lines 19-20.

Regarding **claims 7 and 14-16** in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses the ATM processing unit APU 500 (see fig. 16 and col. 9, lines 38-39) is the brain of the network protocol-processing unit (said system acts as a virtual matrix; claim 7). Furthermore, the APU 500 also runs software from the IRAM 506 (Said matrix has only software switches; claim 14. Said matrix processes all switching functions in RAM; claim 15. Said matrix is programmable; claim 16). See fig. 16 and col. 9, lines 58-60.

Regarding **claims 8 to 10**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses the system may be employed to convert one protocol, such as ATM 590 (see fig. 41), to another protocol, such as Ethernet 555 (Said matrix is capable of accepting any input protocol (claim 8), outputting any

protocol (claim 9), translating any of said input protocol to any of said other output protocol (claim 10)). See col. 17, lines 40-46.

Regarding **claim 11**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses the APU 500 (see fig. 16 and col. 9, lines 45-51) translates incoming ATM cells into Ethernet packets and vice versa (translation is enabled through the use of an internal ATM or cell Bus).

Regarding **claim 12**, in addition to disclose the limitations in claim 1 discussed earlier, Norton further discloses the switch bus 14 (see fig. 1) also used to transfer control information between configuration registers of the cell processing units (said backplane can pass commands or states or calls). See col. 2, lines 11-13.

Regarding **claim 13**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses a network switch interfaced to many ports 542, 543, and 544 (said matrix is capable of handling at least as many as 3360 input and output ports). See fig. 33, and col. 18, lines 7-9.

Regarding **claim 17**, in addition to disclose the limitations in claim 15 discussed earlier, Rostoker further discloses network apparatus 300 may receive data streams from the network 301 which comprise compressed video data (said matrix may be accessed remotely). See fig. 1, and col. 7, lines 44-46.

Regarding **claims 18 and 19**, in addition to disclose the limitations in claims 1 and 17 discussed earlier, Rostoker further discloses the APU 500 (see fig. 16) also provide operational control to collect traffic statistics. These statistics, such as cell counts, can be polled by the host processor and used for billing purposes (said matrix

is monitored by a billing system; claim 18). Since the APU is a RISC processor so the collection can be done in real-time (said billing system works in real time; claim 19). See col. 9, lines 55-57.

Regarding **claims 20 and 21**, in addition to disclose the limitations in claim 1 discussed earlier, Rostoker further discloses running diagnostic control routine if system fails (said matrix is monitored by a diagnostics system; claim 20). See col. 9, lines 62-64. Furthermore, the diagnostic is running in a RISC APU 500 so that diagnostic can be done in real-time (said diagnostics system works in real time; claim 21). See col. 9, lines 38-43.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.


If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKL *dke*
May 26, 2004


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 5/27/04